



Source: Population Trends in Indonesia, by Widjojo Nitiasastro, p. 175.

Reprinted with the permission of the Cornell University Press.

WIDJOJO NITISASTRO ON POPULATION
TRENDS IN INDONESIA

Bruce Glassburner

Widjojo Nitisastro is a man of unusual energy and capability. Since 1966, he has been the Director of the National Planning Council and Chairman of President Suharto's Council of Economic Advisers. He resigned positions as Dean of the Faculty of Economics of the University of Indonesia, Director of the National Institute of Economics and Social Research (LEKNAS), and Director of the Institute of Economics and Social Research of the University of Indonesia, in order to accept the two positions he now holds with the Indonesian Government. He has also somehow managed to prepare and publish in 1970 a thoroughly scholarly treatise on Indonesian demography.¹ Lest prospective readers who think of Dr. Widjojo as an economist be misled, it should be made clear that this is a book of demographic analysis--to the virtual exclusion of economic analysis. What Widjojo has done is to write the definitive account and analytical treatment of the nation's population growth patterns from 1775 through the census of 1961, and to undertake a sophisticated set of projections for the years 1961-1991.

The earliest chapters of the book (Chapters 1, 2, and 3) are mainly concerned with demonstrating the hopeless inadequacy of demographic data in the nineteenth century, and the major errors involved in accepting them as meaningful approximations. The essential problem is that the techniques of data-gathering throughout the nineteenth century--and, indeed, on into the twentieth century, were utterly inadequate. These efforts were confined almost entirely to the island of Java and were dependent upon reports made to district officers of the government by village heads. Inasmuch as compulsory food deliveries under the culture system and forced labor obligations were based upon these reports, the incentive to under-report was unquestionably very strong.

As the century progressed, the attention paid to the quality of reporting increased, and, eventually (in the 1870's), the incentive for under-reporting was substantially reduced by the reduction of the scope of the culture system. Hence, Widjojo argues, the reported high rates of population growth of the 19th century--2.5 percent for the period 1815 to 1875--is not evidence of the success of a colonial regime in reducing death rates, but is, in large measure, a statistical mirage, involving a declining degree of under-reporting.

How serious is the error involved? For example, how far wrong might Raffles' estimates have been? Widjojo refrains from offering any estimate, and, because as he is, in effect, arguing that most of the demographic information for the archipelago prior to 1920 is worth little or nothing, he is only being consistent

1. Population Trends in Indonesia (Ithaca: Cornell University Press, 1970).

with his own advice. However, it is interesting to speculate on the degree of under-reporting and on the consequent overstatement of population growth which results. Suppose, for example, that the rate of population growth on Java from 1815 to 1917 had been, not 2 percent,² but merely 0.5 percent, and that a stable population³ at such a rate was maintained for a very long period. This would mean that the population of Java could have been about 8 million persons (roughly 60 per square kilometer) when Western incursions into the islands became significant--that is, in the first half of the seventeenth century. It would also imply that the population in 1815 was not Raffles' estimated 4.6 million, but more than 20 million--and therefore that the Raffles estimate was wrong by a factor of more than four! But something on this order seems to be required if one is to abandon the notion that there was a substantial acceleration of population growth during the nineteenth century as Widjojo clearly wishes to do. As he puts it, "Most probably the population of Java was already very large long before the nineteenth century."⁴

To reach this extreme conclusion, however, is to imply that errors of roughly comparable degree were made in reporting for most of the nineteenth century--and also to imply a startling acceleration in the twentieth century when the degree of under-reporting had presumably been brought to a more nearly acceptable level. The official data show a growth rate of 1.24 percent per annum between 1900 and 1930, and although the report of the 1930 census complains of under-reporting in earlier years (specifically in the 1920 census), a rate in these later years of this order of magnitude does not seem seriously questionable.

Thus, while Widjojo brings into serious question the conception of a "population explosion" during the nineteenth century, he has not eliminated the problem of explaining the accelerated growth during the years of Dutch domination. The degree of acceleration may well have been much less than many historians have assumed, and it may have occurred much later, but there seems little doubt that well before independence, crude death rates began to fall and/or fertility rates to rise, causing the gap between the two to become 10 or more per thousand. Whether this widening of the gap in the vital rates occurred gradually over several centuries of colonial rule or quite suddenly (perhaps in some way related to the "Ethical Policy" of the later colonial decades), it remains an historical fact.

Widjojo appears to be particularly concerned to deny any support for the hypothesis that the rise in life expectancy was the product of beneficial colonial policy--such as smallpox vaccination--because such measures were not only on a very small scale, but largely confined to the enclaves of the European and Europeanized community. One is reminded of Higgins' theory of "technological dualism" in

2. Derived from Widjojo's Table 1, pp. 4-5. The table presents official reports for the period 1815-1930.

3. A stable population is not a static population, but one with unchanging growth parameters.

4. p. 236.

which the enclave society succeeds in insulating itself from the indigenous community to such an extent that the income and technological "fallout" effects on the indigenous community are enough to generate a population explosion, but insufficient to allow for any significant rise in per capita income.⁵ But even this conception allows for the leakage of economic forces which make longer life possible--such as medical services, improved water supplies, transportation, education or remissions of income from plantation or factory workers to families remaining in the "traditional" sector.

The Dutch Colonial government did not begin its taking of decennial censuses until 1920, and was unable, because of World War II, to undertake a census in 1940; hence prewar information hinges very largely on only two--those of 1920 and 1930. Only the census of 1930 can be properly regarded as a "modern" census, however. Widjojo bases his discussion of the development of demographic patterns in the period 1930-1960 mainly on projections of Java's population from the 1930 census, using a quasi-stable population model. The results are of great interest, although much of the detail must go without check until later and is therefore largely conjectural. However, the 1960 projection compares very well with the results of the first post-independence census of 1961.

Of particular interest in the 1930-1960 period is the period 1940-1950, during which time almost no data of reliability were available because of the Japanese occupation followed by the war of independence. Widjojo argues that, because of deprivation, family disruption, and postponement of marriage, birth rates fell substantially and death rates rose to the point that the growth rate of population was zero or negative. This "population recession" was then followed after the transfer of sovereignty (late 1949) by a rapid resumption of normal fertility and a substantial drop in death rates. Growth resumption was supposedly caused by increasing food availability and public health measures--notably the *pemberantasan malaria*, which virtually eliminated malaria from Indonesia (or at least Java) in the 1950's.

Widjojo's model projects a level of population and a pattern of age distribution which conform remarkably well to those shown by the Census of 1961. There is a suggestion that Widjojo's model overstated growth over the period, yielding a 1960 population for Java of 62 million persons--one year before the census revealed essentially an identical figure. Implicitly, his projection for 1961 would have been nearly 64 million. The vital rates for the latter part of the period (that is, 1955-1960) which were generated by the model were as follows:⁶

Annual sex-age	
adjusted birth rate	46.40 per thousand
Expectation of life at birth . .	37.5 years

5. Benjamin Higgins, "The 'Dualistic Theory' of Underdeveloped Areas," Economic Development and Cultural Change (1956), pp. 99-115.

6. Table 39, p. 158.

Annual crude birth rate	46.58 per thousand
Annual crude death rate	26.16 per thousand
Annual crude rate of natural increase . .	20.42 per thousand

Widjojo's review of the 1961 census is entirely favorable, both with reference to the procedures and organization of the activity, and with the results--which he demonstrates to have been well substantiated by subsequent checks. He presents the salient results in a concise 31-page chapter, giving us not only the aggregative vital data, but those on geographical distribution, age and sex distribution, a variety of labor force data (occupational distribution, participation rates, and urban-rural distribution), and social characteristics (literacy and the level of education).

Widjojo ends the volume with the application of an essentially similar quasi-stable population model to the base data provided by the 1961 census. By altering basic parameters, he generates four projections for the period 1961-1969. The summary table is reproduced on the following page.

Several key conclusions emerge from these projections. First, Widjojo's two most optimistic projections, (projection A, which assumes a very slowly rising life expectancy at birth, and projection D, which assumes a gradual decline in birth rates and a more rapid rise in life expectancy) yield total populations of 198 and 200 million persons, respectively, by 1991, which, despite a somewhat lower growth rate for the island of Java, would mean a population density on that island nearly double that of the early 1960's (480 per square km.)--a degree of crowding which is almost impossible to imagine over such a large area.

Secondly, the age-structure of the population is such that the rate of growth can be expected to show deceleration during the decade of the 1960's, followed by renewed acceleration in the 1970's and beyond. This peculiarity is a reflection of the "population recession" of the 1940's, which created a "pinch" in the cohorts born in that period and which averaged (age) in their early 20's in the latter part of the decade of the 1960's. In the 1970's, however, the impact of the post independence growth spurt will begin to "echo." A similar "echo" pattern shows in projections of the labor force. Widjojo refers to this as the "radical rejuvenation of the working-age population in the form of an almost doubling of the number of younger workers aged 15-19 and 20-24 years" in the decade 1966-1976.⁷

This observation has frightening implications, both economically and politically. Experience demonstrates that rapid economic development is achieved by raising labor productivity--which implies that output must grow more rapidly than employment. Thus, if unemployment is not to grow, it is necessary for the minimal overall growth target to be the sum of the rate of labor force growth plus the rate of growth of productivity. Experience in low-income countries with rapid population growth (for example, Pakistan) suggests that,

7. p. 220.

Projected Total Population and Annual Rate of Increase, Indonesia, 1961-1991

Year	Projection A		Projection B		Projection C		Projection D	
	Total population (in thous)	Annual rate of increase (per 1,000)	Total population (in thous)	Annual rate of increase (per 1,000)	Total population (in thous)	Annual rate of increase (per 1,000)	Total population (in thous)	Annual rate of increase (per 1,000)
1961	97,019		97,019		97,019		97,019	
		21.6		23.8		23.8		23.8
1966	108,058		109,166		109,166		109,166	
		19.8		22.0		23.2		21.8
1971	119,346		121,717		122,520		121,663	
		20.1		22.3		25.2		22.3
1976	132,062		136,022		138,787		136,012	
		23.5		25.7		29.8		24.9
1981	149,413		154,486		160,916		153,956	
		27.4		29.1		33.8		26.4
1986	171,393		178,454		190,217		175,702	
		28.6		30.1		35.6		26.0
1991	197,843		207,266		226,978		200,057	

Source: Widjojo's Table 74, p. 206.

even with quite satisfactory growth rates--for example, in the range of 5 to 6 percent of Gross National Product, unemployment may grow rather than diminish, due to the concentration of the development effort on improved technique and increased capital per worker. A marked upsurge in the labor force growth rate of the type predicted by Widjojo (and clearly foreshadowed by the age structure shown in the 1961 census) exacerbates the problem seriously. Macro-economic planning which focuses on the rate of per capita income growth as the main index of achievement may well lead to oversight of the huge employment problem which must be faced.

The Indonesian Five Year Plan for 1969-1974 hopes to accomplish an overall income growth rate of 5 percent--which would yield about a 2.5 percent per capita income growth rate. This appears to be, and indeed would be, a substantial achievement following the extended period of economic disruption of the 1960's, but its achievement would not improve the employment situation and would probably lead to rising unemployment in the face of this influx of youth to the labor market. An increase in employed-labor productivity of 3 to 4 percent would not be at all surprising, thus leaving only 1 or 2 percent of the total growth to generate new employment. If this were to be the case, a growth target upwards of 6 percent would be required to maintain the level of unemployment already established at the outset. To reduce the size of the idle labor pool would require still more growth. Overt unemployment in Indonesia in 1970 is probably not less than 2 million persons. Partial, or "disguised" unemployment may amount to the equivalent of 10 million man-years. While it may be conceivable that the long-suffering Indonesians have adapted to work and income-sharing to such an extent that they will continue to tolerate present levels of unemployment indefinitely, it is doubtful that any government would be willing to risk testing that proposition.

One policy direction that suggests itself immediately in this situation is to adopt a labor-intensive growth strategy--that is, a pattern of investment which requires little capital per unit of labor, such as the building of roads, irrigation works, conservation activities, etc. The difficulty with this answer is that projects of this sort may generate employment at some cost in output growth rate--a now classical problem in the choice of techniques.

Family planning, no matter how effective, cannot mitigate the problem of labor absorption for 15 or 20 years, or until babies being presently born become old enough to enter the labor force. However, reduction of the birth rate during the decade of the 1970's can have an earlier impact on economic welfare for the simple reason that babies are consumers from the day of birth. Furthermore, in the absence of a fall in the birth rate, Indonesia's population growth rate will continue to accelerate over the next 30 years, as all of Dr. Widjojo's projections indicate (see again the table on the preceding page). But family planning programs have not yet demonstrated their effectiveness. In all important cases of significant deceleration of population growth, governmental programs have been of minor importance. Furthermore, Indonesia has an extreme shortage of both capital and organizational expertise. Hence the question arises, should she now embark on a major family planning effort at the expense of other activities which would increase output? The answer to that question is an extremely complicated one, requiring information which

only time can provide--while Indonesia's leaders are faced with an immediate decision problem. It would be interesting to know what Dr. Widjojo, in his role as Director of the National Planning Council thinks about the matter, but in his role as author of this book, he gives us no opinion.

The final sentence of the preceding paragraph and earlier comments on what Widjojo did not do in the book under review are not intended here as complaint. He has done a very great deal as it is. Quite appropriately, he has presented us with a significant volume and left it for others to analyze the economic and social implications of the information and demographic analysis it contains. No serious student of modern Indonesia can afford to leave this book unread.